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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRAN, NGUYEN

ART UNIT

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2838

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,710	Applicant(s) USUI, HIROSHI	
	Examiner NGUYEN TRAN	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-7, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Usui et al. (US 20050201123).

Regarding claim 1: Usui et al. discloses **fig. 2** a power supply comprising:

a voltage generating section (2, 3, 4) **(2, c1, T, D51, C51)** which generates an output voltage **(Vout)** to be supplied to a load **(i.e. load that connects at Vout)**;

a drive control section (6) **4** which, is activated upon a drive control voltage **(output of 10)** being applied to a power supply line **(power line of fig. 2)** and said drive control voltage **(output of 10)** exceeding a preset value **[paragraph 0039]**, generates a drive signal **(output of 4)** in accordance with a signal indicating **(i.e. input signal of 10)** said output voltage **(Vout)** be supplied to said load **(i.e. load that connects at Vout)**, and supplies said generated drive signal **(output of 4)** to said voltage generating section (2, 3, 4) **(2, c1, T, D51, C51)** to drive and control said voltage generating section (2, 3, 4) **(2, c1, T, D51, C51)**; and

a drive-control voltage supply section (8) **5a** which, upon startup of said power supply **fig. 2**, applies said drive control voltage (**output 10**) to said power supply line (**power line of fig. 2, i.e. the power supply applied to the power line that inputted into the control circuit 4**) of said drive control section (6) **4** to cause said drive control section (6) **4** to initiate drive and control of said voltage generating section (**2, c1, T, D51, C51**) [paragraph 0040-0043];

causes said drive control section (6) **4** to stop operation of the drive control section **4** of said voltage generation section (**2, c1, T, D51, C51**) and to stop, by lowering said drive control voltage (V_{c3}) (**output of 10**), its own operation when and output current (**output current generated from the AC power source**) to be supplied to said load(**i.e. load that connects at V_{out}**) become less than a preset current value (**i.e. when the AC power source is OFF, there is no current is providing to the circuit of figure 2. Therefore the output current to be supplied to said load becomes less than a preset current value (i.e. a preset current value is a current value that provided to the circuit of figure 2 when the AC power source is ON)** [see figure 3, and paragraph 0050-0056 and 0113];

raises said drive control voltage (**output of 10**) to reactivate said drive control section (6) **4** after a predetermined time elapses since stopping of the operation of said drive control section (6) **4** [see figure 3, and paragraph 0050-0056].

Regarding claim 2: **fig. 2** wherein said voltage generating section comprises: a transformer (T) having a primary winding and a secondary winding; a DC voltage input section (2) which receives an AC voltage and applies a DC voltage that is said input AC

voltage rectified and smoothed to said primary winding of said transformer (T); a switching section (Q 1) which generates a voltage on said primary winding of said transformer (T) by switching a current flowing in said primary winding of said transformer (T); and a rectifying and smoothing section (4) which rectifies and smooths a voltage generated on said secondary winding of said transformer (T), and supplies that voltage to said load, whereby said drive control section (6) supplies a pulse signal for said switching section (Q 1) to switch said current to said switching section (Q 1) as the drive signal, thereby driving and controlling said switching section (Q 1).

Regarding claim 4: fig. 2 wherein said charge circuit section is constituted by inserting, between said DC voltage input section (2) and one end of said capacitor (C3): a constant current supply section (14) which supplies a constant current to said capacitor (C3); and a switch (13) which is closed at a time of activation when said DC voltage input section starts inputting the DC voltage.

Regarding claim 5: fig. 2 wherein said charge circuit section is constituted by inserting, between said DC voltage input section (2) and one end of said capacitor (C3): a resistor (R21); and a switch (13) which is closed at a time of activation when said DC voltage input section (2) starts inputting the DC voltage.

Regarding claim 6: fig. 2 and 3 wherein said charge control section comprises a switch control section (17) which stops charging of said capacitor (C3) from said charge circuit section (13, 14, R21), and said time measuring section (16) measures a time after said operation stop section (15) stops the operation of said drive control section (6), and outputs a switch-ON signal to close said switch (13) to said switch

control section (17) when a preset time elapses since measuring, thereby resuming charging of said capacitor (C3).

Regarding claim 7: fig. 2 and 3 wherein a resistor (R22) is connected to both ends of said capacitor (C3), and said time measuring section (16) considers that the preset time has elapsed when a voltage across said capacitor (C3) becomes equal to or lower than a predetermined value after said operation stop section (15) has stopped the operation of said drive control section (6), and causes said switch control section (17) to resume charging of said capacitor (C3).

Regarding claim 11: the method steps will be met during the normal operation of the apparatus described above. **(Examiner notes:** For method claims, note that under MPEP 2112.02, the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). Therefore the previous rejections based on the apparatus will not be repeated).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usui et al. (US 20050201123) in view of Yoshinaga et al. (US 20020145888).

Regarding claim 3: Fig. 2 wherein said transformer (T) has a third winding (n3), and said drive-control voltage supply section (8) comprises: a capacitor (C3) which applies a charged voltage to said drive control section (6) as the drive control voltage; a charge circuit section (13, 14, R21) which supplies a current to said capacitor (C3) from said DC voltage input section (2) of said voltage generating section (2, 3, 4) to charge said capacitor when said DC voltage input section (2) starts inputting a DC voltage to said primary winding of said transformer (T); an auxiliary power supply section (7) which rectifies a voltage generated on said third winding (n3) of said transformer (T) and applies that voltage to said capacitor (C3) to charge said capacitor (C3); a charge control section (17) which stops charging of said capacitor (C3) from said charge circuit section (13, 14, R21) when the drive control voltage to be supplied to said drive control section (6) becomes equal to or greater than a preset voltage value **[paragraph 0039-0040 and 0050-0056]**;

a time measuring section (16) **(figure 3, in order to provide a time intervals between t0-12, the circuit of figure 2 is implicitly provides a timer measuring section)** which measures a time after said operation stop section (15) stops the operation of said drive control section (6), and causes said charge control section (17) to resume charging said capacitor (C3) when a preset time elapses since measuring **[paragraph 0050-0056]**.

Usui et al. does not specifically discloses an operation stop section (15) **10** which detects an output current to be supplied to said load, compares a current value of said detected output current with said preset current value, and stops an operation of said drive control section (6) when the current value of said detected output current becomes less than the preset current value.

Yoshinaga et al. teaches that it is desirable to have a comparator in a switching power supply capable of providing stable oscillation and output [0005], wherein an operation stop section (15) which detects an output current to be supplied to said load, compares a current value of said detected output current with said preset current value (**Fig. 1, CMP5**) [0037].

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to have placed the current comparator Usui et al. 's invention as taught by Yoshinaga with a reasonable expectation of success because Yoshinaga et al. teaches that it is desirable to have a comparator in a switching power supply capable of providing stable oscillation and output [0005].

Regarding claim 8: is rejected for the same reason as above in claims 1-7.

Regarding claim 9: fig. 2 and 3 wherein said charge circuit section comprises a current supply section (14) which supplies a current to said capacitor (C3), and said discharge control section comprises: a switch (13) which is open at a time of activation when said DC voltage input section (2) starts inputting the DC voltage; and a switch control section (17) which closes said switch (13) to discharge the voltage of said

capacitor (C3), when said operation stop section (15) stops the operation of said drive control section (6).

Regarding claim 10: fig. 2 and 3 wherein said charge circuit section comprises a resistor inserted between said DC voltage input section (2) and said capacitor (C3), and said discharge control section comprises: a switch (13) which is open at a time of activation when said DC voltage input section (2) starts inputting the DC voltage; and a switch control section (17) which closes said switch (13) to discharge the voltage of said capacitor (C3), when said operation stop section (15) stops the operation of said drive control section (6).

Conclusion

Examiner's note: **Examiner has cited particular figures, columns and line numbers in the reference applied to the claims above for the convenience of the applicant.** Although the specified citations are representative of the teaching of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. **It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.**

In the case of amending the claimed invention, Applicant is respectfully requested to indicated the portions(s) of the specification which dictate(s) the

structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGUYEN TRAN whose telephone number is (571)270-1269. The examiner can normally be reached on M-F 7:30-5:00, OFF every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ullah Akm can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Akm Enayet Ullah/
Supervisory Patent Examiner, Art
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NT